TRMM Support Confidence Test - EGS4

Background:

The Earth Observing System Data and Information System (EOSDIS) Core System (ECS), the data and information system for the EOS Mission, has the objective of providing a space and ground measurement system to provide the scientific basis for understanding global climate change. The first EOS instruments, Clouds and Earth's Radiant Energy System (CERES) and Lightning Imaging Sensor (LIS), will be launched in 1997 on the Tropical Rainfall Measuring Mission (TRMM) Observatory. The ECS provides a user interface and information about EOSDIS data holdings on a 24-hour basis. It also provides information that is archived externally to EOSDIS and with which EOSDIS interfaces, accepts users orders for EOS data, provides information about future data acquisition and processing schedules, accepts and forwards data acquisition requests and processing requests, and provides access to the system management and status information.

Test Objectives:

The objectives of this test is to verify that the EOS ground system (EGS) can functionally support the TRMM instrument Visible Infrared Scanner (VIRS), Precipitation Radar (PR), TRMM Microwave Imager (TMI) data flow. The requirements of the EGS to be verified in this test will be the ability of:

- GSFC and LaRC DAACs to ingest TRMM science data products.
- GSFC and LaRC DAACs to archive TRMM science data products.
- GSFC to distribute TRMM science data products to TSDIS for reprocessing.
- GSFC to distribute ancillary data to TSDIS for processing and reprocessing.
- GSFC DAACs to distribute TRMM products to TSDIS Science Users (TSUs) for data trending and analysis.
- LaRC DAAC to ingest and archive CERES Level 0 and quick-look data sets from SDPF.
- LaRC DAAC to ingest and archive Definitive and Predictive Orbit data from SDPF.

Requirements Verified:

Functional Requirements

DADS0130#A, DADS0240#A, DADS0290#A, DADS0475#A, DADS2020#A, DADS0320#A, EOSD1607#A, EOSD1608#A, SDPS0020#A, SDPS0080#A, IMS-0510#A, IMS-1072#A, IMS-0740#A.

Interface Requirements

TRMM1010#A, TRMM1050#A, TRMM1060#A, TRMM1070#A, TRMM1080#A, TRMM1090#A, TRMM1130#A, TRMM1180#A, TRMM1195#A, TRMM1200#A, TRMM1210#A, TRMM1280#A, TRMM3050#A TRMM4010#A, TRMM4030#A, TRMM4040#A, TRMM4050#A, TRMM4060#A, TRMM4070#A, TRMM4100#A, TRMM4101#A, TRMM4102#A, TRMM4103#A, TRMM4104#A, TRMM4130#A, TRMM5010#A, TRMM5030#A, TRMM5040#A, TRMM5060#A, TRMM5100#A, TRMM8100#A.

Test Configuration:

Hardware and software configurations at each ECS site are managed and tracked by the M&O organization at that site. The most current configuration status report will be obtained prior to the start of testing and be

referenced in the test report.

(See EXHIBIT EGS 4-1)

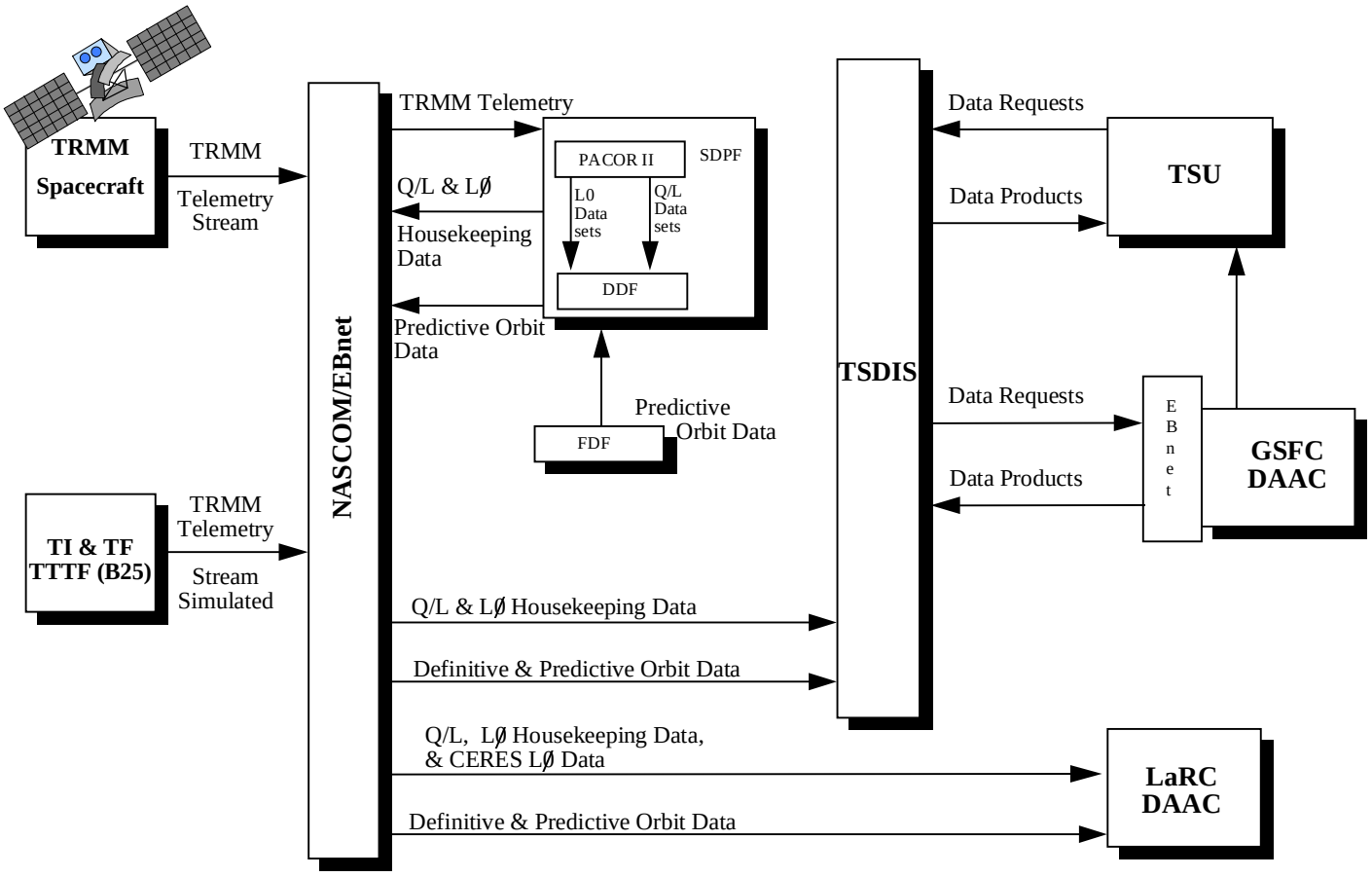

EXHIBIT EGS 4-1: TRMM Production Processing Test

Participants and Support Requirements:

a. Participants

GSFC DAAC M&O personnel

LaRC DAAC M&O personnel

I&T Test Conductor

TSDIS I&T Test Conductor

SDPF I&T Test Conductor

TRMM Science User

FDF personnel

NASCOM personnel

b. Communications:

1. Voice -
   Telephone
   NASCOM SCAMA - **TBD**

CCL Circuits - **TBD**

2. Data -
   EBnet

c. Equipment and Software:

Hardware: Sun Workstation, Gateway Server, Ingest Server, Kerberos Security Server, Science Data Server, Working Storage Unit, Archive Storage.

Software: CsGWMessage.cxx, CsGWSdpfMsg.cxx, CsGwGateway.cxx, CsGwIncomingGatewayMain.cxx, CsGwDeliveryGatewayMain.cxx, CsGwIntGatewayMain.cxx, CsGwDlvGatewayMain.cxx, CsGwSdpfMain.cxx.

d. Test Tools: None.

Test Data:

Description/Characteristics	Source	File/Script Name & Location
VIRS, PR, TMI and GV data - Combined - Browse - Standard - Archived - Metadata - Algorithms and documentation - Directory and Guide Information	TSDIS, GSFC DAAC, GV sites, TSUs	File/Script Name - **TBD** Physical Location - Data Files on TSDIS File Servers
Ancillary data	GSFC DAAC	File/Script Name - **TBD**
L0 Housekeeping and Quick Look Data - Definitive/Predictive Orbit Data - Predicted Sun Position - Moon in Field-of-View (FOV)	SDPF	File/Script Name - **TBD** Physical Location - Data Files spread over 2 or more SDPF DDF File Servers
CERES L0 Data Sets - 24 hour day group	CERES Instrument Team or SDPF	File/Script Name - **TBD** Physical Location - Data Files spread over 2 or more SDPF DDF File Servers
CERES Quick Look Data Sets - Data from one Spacecraft Session	CERES Instrument Team or SDPF	File/Script Name - **TBD** Physical Location - Data Files spread over 2 or more SDPF DDF File Servers

References:

490-152	Interface Requirements Documents between the EOSDIS and the TRMM Ground System, February 1995, Change 3, December 1995
510-2ITP/0295	TRMM Ground Data System Integration and Test Plan, October 1995
490-275	TRMM Ground Segment Integration and Certification Management Plan, May 1996
505-41-42	Interface Control Document between ECS and TSDIS, May 1996
510-203.103	ICD between the SDPF and the TRMM Consumers, April 1996

Test Cases:

Prerequisites: LaRC DAAC - SDPF Interface Confidence Test ICT6
GSFC DAAC - TSDIS Interface Confidence Test ICT7
Data Ingest and Archive Confidence Test SDP1

EGS4.1 LaRC DAAC Ingest and Archiving Test

This test verifies the ability of the LaRC DAAC to ingest, process, and archive 1 Day of CERES Level 0 Housekeeping (H/K) data and 3 Q/L passes data sets and ancillary data received from the SDPF. From the SDPF, transfer to the LaRC DAAC a DAN containing 1 Day of CERES L0 H/K data and 3 Q/L passes data sets along with the associated ancillary data (orbit/attitude files). The Langley DAAC will ingest the data from the SDPF for the generation of higher level products to be archived for distribution to users. The CERES Level 0 and Q/L data sets shall contain quality and accounting information. The CERES scheduled Q/L data sets will be received from SDPF three times per day. The data files for this test may be spread over multiple disks within a server and or multiple servers.

Requirements to be Verified:
DADS0130#A, DADS0210#A, DADS0320#A, DADS2020#A, DADS2040#A, EOSD1607#A, EOSD1608#A, IMS-0510#A, SDPS0020#A, TRMM1010#A, TRMM1040#A-1090#A, TRMM1130#A, TRMM1180#A, TRMM1195#A, TRMM1200#A, TRMM1280#A.

Test Procedures:

Test Set up:

Step	Station	Action	Expected Results	Comments
1.	LaRC DAAC	Login as DAAC operator Open a UNIX script file to maintain test history.	Login allowed	
2.	SDPF and LaRC DAAC	Validate IP Address and Password information.	Both system should contain the valid information.	
3.	SDPF and LaRC DAAC	Verify connection capabilities between the two systems.	Each system is able to 'Ping' the other system.	
4.	LaRC DAAC	Resource Planner verifies that resources have been allocated for the ingest of ancillary data from the SDPF.	Resources are allocated. If not, configuration changes are made to the system to ingest data from SDPF.	
5.	LaRC DAAC	Once resources are	Message is received and	

Step	Station	Action	Expected Results	Comments
		allocated, the resource planner notifies the Ingest/Distribution Technician that the system is ready to ingest data from the SDPF.	the test begins.	

Test Execution:
CERES Data Product Transfer

Step	Station	Action	Expected Results	Comments
1.	SDPF	Send an 'Authentication Request' to the LaRC DAAC.	LaRC DAAC confirms receipt of 'Authentication Request', and verify 'Authentication Response' message sent to the SDPF.	
2.	SDPF	Verify receipt of 'Authentication Response' message from the LaRC DAAC.	Socket connection between the SDPF and the LaRC DAAC established.	
3.	SDPF	Generate and transfer a DAN for 1 Day of CERES Housekeeping (H/K) Level 0 product to the LaRC DAAC.	A message or log file should indicate transfer of DAN. .	
4.	LaRC DAAC	Verify successful receipt and validation of the DAN. The data files shall be placed in the Ingest queue and a DAA shall be transferred to the SDPF.	A message or log file should indicate the successful receipt and validation of the DAN.	
5.	SDPF	Verify successful receipt of the DAA.	A message or log should indicate successful receipt of the DAA.	
6.	LaRC DAAC	Monitor the ingest process by viewing	Note the extraction and verification of the	

Step	Station	Action	Expected Results	Comments
		the Ingest Status Monitor display.	metadata (selected Parameters from the extracted metadata are checked), conversion of data into HDF-EOS format, and insertion of data into the Data Server Verify that the appropriate files are ingested and archived into the directory.	
7.	LaRC DAAC	Access the Archive Activity screen and select the Archive Activity Log option to view information concerning the archive activities of the data insert request.	The Archive Activity Log displays each data product being stored and storage status of each storage operation.	
8.	LaRC DAAC	Upon completion of data insertion into the Data Server, and archiving of the data into the LaRC DAAC directory, the LaRC DAAC automatically sends status to the SDPF by means of a DDN.	SDPF receives a DDN from the LaRC DAAC.	
9.	SDPF	Verify successful receipt of the DDN and transmit a Data Delivery Acknowledgment (DDA) to the LaRC DAAC.	A message or log should indicate successful receipt of the DDN and the transfer of the DDA.	
10.	LaRC DAAC	Verify the successful receipt of the DDA. View the status of completed ingest request using the ECS History GUI to display the results	The Event Log should indicate receipt of the DDA and on-going ingest request is deleted from the Status Monitor display.	
11.	LaRC DAAC and SDPF	Verify the connection between the two	No connection should exist following the end	

Step	Station	Action	Expected Results	Comments
		systems has been terminated.	of the exchange messages	
12.	LaRC DAAC	Access the Ingest Summary Report GUI Screen and select both the Ingest Data Summary Report and the Ingest Error Report options. Generate and review both copies of the summary reports.	The system generates the summary reports detailing the completed ingest requests, including completion status, data volume ingested, etc.	
13.	SDPF	Send an 'Authentication Request' to the LaRC DAAC.	LaRC DAAC confirms receipt of 'Authentication Request', and verify 'Authentication Response' message sent to the SDPF.	
14.	SDPF	Verify receipt of 'Authentication Response' message from the LaRC DAAC.	Socket connection between the SDPF and the LaRC DAAC established.	
15.	SDPF	Transmit a DAN with 3 CERES Q/L passes data sets along with associated ancillary data.	A message or log file should indicate transfer of the DAN to LaRC DAAC.	
16.	LaRC DAAC	Verify successful receipt and validation of the DAN. LaRC DAAC responds with a DAA and automatically initiates the file transfer.	A message or log file should indicate the successful receipt and validation of the DAN. The data files shall be placed in the Ingest queue and a DAA shall be transferred to the SDPF.	
17.	SDPF	Verify successful receipt of the DAA.	A message or log should indicate successful receipt of the DAA.	
18.	LaRC DAAC	Monitor the ingest process by viewing the Ingest Status	Note the extraction of the metadata (selected Parameters from the	

Step	Station	Action	Expected Results	Comments
		Monitor display.	extracted metadata are checked) conversion of data into HDF-EOS format, and insertion of data into the Data Server. Verify that the appropriate files are ingested and archived into the directory.	
19.	LaRC DAAC	Upon ingesting the ancillary data the execution of the PGEs begins.		
20.	LaRC DAAC	DAAC Production Planner notes the jobs scheduled for processing today in the month long current active plan.	Jobs scheduled for processing today are hi-lited in the month long current active plan.	
21.	LaRC DAAC	DAAC Production Planner invokes the "Planning Workbench" software.	The "Planning Workbench" software is invoked.	
22.	LaRC DAAC	DAAC Production Planner initiates the downloading of the daily schedule of jobs to the Autosys scheduling tool.	The daily schedule of production processing jobs are downloaded.	
23.	LaRC DAAC	Convert Data Processing Request into Autosys commands using Autosys JIL interface.	Autosys displays each DPR in a job box which contains all the required jobs for a PGE and automatically places jobs in a held state while waiting on their test dependencies.	
24.	LaRC DAAC	The Data Server Subsystem notifies the Planning Subsystem subscription manager software as subscription requests are fulfilled.	The subscription manager software releases the appropriate DPRs from their held state as the subscription notifications arrive.	

Step	Station	Action	Expected Results	Comments
25.	LaRC DAAC	DAAC Production Monitor view the processing status of all DPRs throughout the day by accessing the Autosys JobScape screen.	Processing status of the day's worth of DPRs are displayed on the Autosys JobScape screen.	
26.	LaRC DAAC	Coordinate with the GSFC DAAC for the transfer of NMC ancillary data and execute DAAC to DAAC data transfer procedures.	The GSFC DAAC transfers the NMC ancillary data to the LaRC DAAC.	
27.	LaRC DAAC	Invoke the DSS System Management Tool and access the Storage Management screen. Select the Log and Reports (MSS) option from the screen to examine the progress of a particular insert request.	The DSS System Management Tool is accessed and the Storage Management screen is displayed. The Log and reports (MSS) option is selected and log files are displayed.	
28.	LaRC DAAC	Receives a data insert request validation message on the screen.	The Processing subsystem sends a Data Insert Request to the Science Data Server.	
29.	LaRC DAAC	Continues to receive and review status concerning the data insert requests. Access the Data Server System Management screen and select the Request option.	The queued Data Insert Request is reached and processing begins. Associated data granules and metadata are transferred from the Processing Subsystem to the Data Server working storage.	
30.	LaRC DAAC	Access the Archive Activity screen and select the "Archive Activity Log" option to view information concerning the	The Archive Activity Log displays each data product being stored and storage status of each storage operation.	

Step	Station	Action	Expected Results	Comments
		archive activities of the data insert request.		
31.	LaRC DAAC	Upon completion of data insertion into the Data Server, and archiving of the data into the LaRC DAAC directory, the LaRC DAAC automatically sends status to the SDPF by means of a DDN.	SDPF receives a DDN from the LaRC DAAC.	
32.	SDPF	SDPF operator verifies successful receipt of the DDN and the system automatically sends a DDA to LaRC DAAC.	DDA is sent to LaRC DAAC.	
33.	SDPF	Verify the successful receipt of the DDA.	The Event Log should indicate receipt of the DDA.	
34.	LaRC DAAC	Verify the network connectivity between the two systems has been terminated.	No connection should exist following the end of the exchange messages.	

Test Termination:

Step	Station	Action	Expected Results	Comments
1.	LaRC DAAC	Print the Event Log. Print the UNIX script file for the test history.		
2.	SDPF	Print the SDPF event log for the test period.		
3.	SDPF and LaRC DAAC	Return both system to the state 'Operational Mode' it was in prior to the test.		

EGS4.2 GSFC Ingest and Archiving Test

This test will verify the capability of the GSFC DAAC to ingest data from the TSDIS, convert/reformat the data, extract and check Metadata, and archive and transfer the data to the users. The physical network interface between TSDIS and GSFC is provided by the ESODIS Backbone Network (EBnet). TSDIS receives the VIRS, PR, and TMI data sets and uses them in conjunction with ground validation (GV) data received from various ground validation sites and ancillary products to produce Level 1 higher level products. Once the Level 1 and higher level products are generated, the GSFC DAAC is notified via a DAN indicating their availability for transfer. Verification is made to ensure that all of the data is ingested, accounted for, validated, and archived.

Requirements to be Verified:

DADS0475#A, DADS2020#A, DADS0320#A, EOSD1607#A, EOSD1608#A, EOSD1750#A, SDPS0020#A, SDPS0080#A, IMS-1072#A, IMS-0740#A.

TRMM3050#A TRMM4010#A, TRMM4030#A, TRMM4040#A, TRMM4050#A, TRMM4060#A, TRMM4070#A, TRMM4100#A, TRMM4101#A, TRMM4102#A, TRMM4103#A, TRMM4104#A, TRMM4130#A, TRMM5010#A, TRMM5030#A, TRMM5040#A, TRMM5060#A, TRMM5100#A, TRMM8100#A.

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Test Procedures:

Test Set-up:

Step	Station	Action	Expected Results	Comments
1.	GSFC DAAC	Login as DAAC operator Open a UNIX script file to maintain test history.	Login allowed	
2.	TSDIS and GSFC DAAC	Validate IP Address and Password information.	Both system should contain the valid information.	
3.	TSDIS and GSFC DAAC	Verify connection capabilities between TSDIS and GSFC DAAC.	Each system is able to 'Ping' other system.	
4.	GSFC DAAC	Verify that TSDIS has loaded test data files onto TSDIS product staging directory.	Files should include correct naming conventions and all of the data types that GSFC DAAC receives from TSDIS.	
6.	TSDIS	Verify that test data are available and notifies the Ingest/Distribution	The test data shall be of the appropriate Instrument, size and format as required by	

Step	Station	Action	Expected Results	Comments
		Technician at the GSFC DAAC to proceed.	the test.	

Test Execution:
Level 1 VIRS/GV/PR/TMI Products, Browse product and Metadata transfer

Step	Station	Action	Expected Results	Comments
1.	TSDIS	Send an 'Authentication Request' to the GSFC DAAC.	GSFC DAAC confirms receipt of 'Authentication Request', and verify 'Authentication Response' message is sent to the TSDIS.	
2.	TSDIS	Verify receipt of 'Authentication Response' message from the GSFC DAAC.	Socket connection between the TSDIS and the GSFC DAAC established.	
3.	TSDIS	Send a DAN to the GSFC DAAC containing the following products: **Standard Products**: Level (1A-3B) - VIRS, PR, TMI, GV **Browse Products:** - VIRS, PR, TMI, GV **Combined Products**: - TBS	A message or an Event log file should indicate transfer of the DAN. GSFC DAAC receives DAN.	**virs_level_1.dat:** VIRS (L1VIRS.yymmdd) TMI (L1TMI. yymmdd) PR (L1PR. yymmdd) **virs_browse.dat** VIRS .BRO TMI.BRO PR .BRO GV.BRO **virs_metdata.dat** ?????
4.	GSFC DAAC	Verify successful receipt and validation of the DAN and transfer a DAA to TSDIS.	A message or an Event log file should indicate transfer of the DAA. TSDIS receives the DAA.	
5.	TSDIS	Verify successful receipt of the DAA from the LaRC DAAC.		
6.	GSFC DAAC	Access the Ingest Status Monitoring GUI Screen and view the status of ongoing	Upon successful ingest, the data files shall be placed in archive directory and	

Step	Station	Action	Expected Results	Comments
		ingest processing.	appropriate Metadata should be produced.	
7.	GSFC DAAC	Verify that a DDN is transferred to TSDIS.	A message or an Event log file should indicate transfer of the DDN. TSDIS receives the DDN.	
8.	TSDIS	Verify the successful receipt of the DDN and the transfer of the DDA to GSFC DAAC after receipt of each DDN.	TSDIS operator distribution queue display shows the delivery was completed. GSFC DAAC receives the DDA.	
9	GSFC DAAC	Access the Ingest History Log Tool GUI to view the summary information concerning the completed ingest requests.	Ingest History Log should provide the following summary information: ingest start/stop dates and times; ingest request identifier; external data provider; final service request status; data type identifiers; ingest data volume; number of data sets; and number of data files.	
10.	GSFC DAAC	Access the Ingest Summary Report GUI and select both the Ingest Data Summary Report and Ingest Error Report options. to view the summary information concerning the completed ingest requests.	Summary Reports are generated detailing the completed ingest requests, including completion status, data volume ingested.	
11.	GSFC DAAC	Invoke the DSS Management Tool and access the Storage Management screen. Examine the progress of a particular insert request on the screen	The DSS Management Tool is accessed and the Storage Management screen is displayed. The “Log and Reports (MSS)” option is selected and the log files are	

Step	Station	Action	Expected Results	Comments
		by selecting the "Log and Reports (MSS)" option from the screen.	displayed on the screen.	
12.	GSFC DAAC	Verify receipt of a data insert request validation message on the screen.	The Processing subsystem sends a Data Insert Request to the Science Data Server. Receipt of the request is logged and a request identifier is associated with the Data Insert Request.	
13.	GSFC DAAC	Verify continued receipt and review the status of the data insert requests. Access the Data Server System Management screen and select the "Requests" option.	The queued Data Insert Request is reached and processing begins. Associated data granules and Metadata are transferred from the Processing Subsystem to the Data Server Working storage.	
14.	GSFC DAAC	Access the Archive Activity Log Screen to view information concerning the archive activities of the data insert request.	The Archive Activity Log should display each data product being stored and storage status of each storage operation.	
15.	GSFC DAAAC	Access the Archive Activity Log Screen and select the sort option of "Time & Date". View the information for : Time and Date, Request ID, Client ID, Operation, Filename, Archive Name, and Volume Name.	The Archive Activity Log Screen displays information pertaining to the data granules contained within the Data Storage request.	
16.	GSFC DAAC	Access the Inventory Update Log screen and select the "Time & Date",	The Inventory Update Log screen is accessed and displays the following fields: Time	

Step	Station	Action	Expected Results	Comments
		"Requester", "Requester Name", and "UR" options to generate a report concerning the contents of the inventory.	& Date", "Requester Name", "Request ID", "Volume Name", "UR" and "Checksum".	
17.	GSFC DAAC	Query the ingest directory and verify that the data files were successfully ingested, validated, and archived into the Directory.	The queried data files are located in the GSFC DAAC Directory and displayed on the screen.	
18.	GSFC DAAC	List the ingest directory and verify that all expected product files were transferred. Compare file sizes on each side of the interface.		
19.	GSFC DAAC	Access the Search and Order Tool to do a query for the TSDIS VIRS, PR, TMI, and GV data.	The TSDIS VIRS, PR, TMI, and GV data are located in the inventory.	
20.	GSFC DAAC	Enter a subscription requesting notification upon receipt of specific TRMM VIRS, PR, TMI, and GV data.	The system stores the subscription concerning the TRMM data.	
21.	GSFC DAAC	Access the Main Ingest GUI and select the "Monitor" option on the screen.	The Ingest Status Monitor is invoked and the screen identifies ongoing ingest requests and displays them.	
22.	TSDIS	Send a DR to the GSFC for 2 days worth of archived VIRS, PR, TMI, GV stored data.	A message or an Event log file should indicate transfer of the DR.	
23.	GSFC DAAC	Verifies receipt of a DR and send a DRA to TSDIS.	A DRA is sent to TSDIS indicating the disposition of the submitted DR.	

Step	Station	Action	Expected Results	Comments
24.	GSFC DAAC	Retrieve all of the requested data from the archive and place it on the designated data server.	The requested data is retrieved from the archive and placed on the data server.	
25.	GSFC DAAC	Verify that a DAN is sent to TSDIS for the requested data.	A message or an Event log file should indicate transfer of the DAN.	
26.	TSDIS	TSDIS sends a DAA to the GSFC DAAC.	GSFC receives the DAA.	
27.	TSDIS	Initiate a kftp transfer of the requested data products.		
28.	TSDIS	Upon completion of the transfer transmit a DDN to the GSFC DAAC.	GSFC DAAC responds with a DDA.	
29.	TSDIS	Verify that successful receipt of the DDA and that 2 days of archived data from the GSFC DAAC have been ingested and archived.		
30.	TSDIS	Send a Data Availability Schedule to the GSFC DAAC.	GSFC DAAC receives a Data Availability Schedule from TSDIS.	
31.	GSFC DAAC	Verify receipt of notification that an e-mail message has been sent to their mailbox.	Read e-mail message concerning the schedule for TSDIS data products.	
32.	TSDIS	Reprocess the data and send a DAN to the GSFC DAAC.	A message or an Event log file should indicate transfer of the DAN. GSFC DAAC receives a DAN.	
33.	GSFC DAAC	Verify successful receipt and validation of the DAN and transfer a DAA to TSDIS.	A message or an Event log file should indicate transfer of the DAA.	
34.	TSDIS	Verify successful receipt of the DAA from the GSFC DAAC.		
35.	GSFC DAAC	Verify that a DDN is	A message or an Event	

Step	Station	Action	Expected Results	Comments
		transferred to TSDIS.	log file should indicate transfer of the DDN.	
36.	TSDIS	Verify receipt of the DDN and send a DDA to the GSFC DAAC.	GSFC receives a DDA from TSDIS. Upon receipt of the DDA, the system deletes the ongoing ingest request information.	
37.	TSDIS and GSFC DAAC	Verify the connection between the two systems has been terminated.	No connection should exist following the end of the exchange messages.	
38.	GSFC DAAC	View the summary information concerning the completed ingest requests via the GUI Ingest History Log tool.	The system displays the Ingest History log which contains summary information on the following: ingest start/stop dates and times; ingest request identifier; external data provider; final service request status; data type identifiers; ingest data volume; number of data sets; and number of data files.	
39.	GSFC DAAC	Access the "Ingest Status Monitoring GUI Screen" to view the status of ongoing interest processing.	The following information is displayed on the screen: external data provider, ingest request identifier, total ingest data volume, and request state.	
40.	GSFC DAAC	List the ingest directory and verify that the 2 days worth of reprocessed products have doubled in size.	Upon successful ingest, the data files shall be placed back in archive directory and appropriate Metadata should be produced.	File Size_1 File Size_2
41.	TSDIS	Transmit a Data Request to the GSFC DAAC for ancillary data file (name - virs_anc.dat)	GSFC DAAC responds with a DRA. Ancillary Products: NMC, GPCC, CAMS, GPI, SSM/I.	

Step	Station	Action	Expected Results	Comments
42.	GSFC DAAC	When the requested file is located, generate and transmit to TSDIS a DAN for the requested data.	TSDIS responds with a DAA.	
43.	TSDIS	Initiate a kftp transfer of the ancillary data product.		
44.	TSDIS	Upon completion of the transfer transmit a DDN to the GSFC DAAC.	GSFC DAAC responds with a DDA.	
45.	TSDIS	Check the ingest directory to verify completion of the transfer.		

Test Termination:

Step	Station	Action	Expected Results	Comments
1.	GSFC DAAC	Print the Event Log for the test period. Print the script file test history.		
2.	TSDIS	Print the TSDIS event log for the test period.		
3.	GSFC DAAC and TSDIS	Return both systems to the state "Operational Mode" it was in prior to the test.		

EGS4.3 TSDIS Request Data from GSFC DAAC for TSUs

This test case verifies the ability of the GSFC DAAC to process TSUs Data Request received from TSDIS. The TSUs will request products from TSDIS and if the products are not stored at TSDIS, the request will be forwarded to the GSFC DAAC. Once the GSFC DAAC receives the request, they will retrieve the requested data from archival and notify the TSUs of the products availability.

Requirements to be Verified:
TRMM4101#A, TRMM4102#A, TRMM4103#A, TRMM5100#A.

Test Procedures:

Test Set-up:

Step	Station	Action	Expected Results	Comments
1.	GSFC DAAC	Login as DAAC operator Open a UNIX script file to maintain test history.	Login allowed	
2.	TSDIS and GSFC DAAC	Validate IP Address and Password information.	Both system should contain the valid information.	
3.	TSDIS and GSFC DAAC	Verify network connectivity between TSDIS and GSFC DAAC.	Each system is able to 'Ping' the other system.	

Test Execution:

Step	Station	Action	Expected Results	Comments
1.	TSDIS	Initiate the Start Session.	A Start Session Message is transmitted from the TSDIS to the GSFC DAAC. The Start Session message is received and verified by GSFC DAAC.	
2.	GSFC DAAC	GSFC DAAC receives the Start Session message, verifies security, and initiate a Start Session Acknowledgment.	TSDIS receives a Start Session Acknowledgment message from the GSFC DAAC.	
3.	TSDIS	Send an 'Authentication Request' to the GSFC DAAC.	GSFC DAAC confirms receipt of 'Authentication Request', and verify 'Authentication Response' message is sent to the TSDIS.	
4.	TSDIS	Verify receipt of 'Authentication Response' message from the GSFC	Socket connection between the TSDIS and the GSFC DAAC established.	

Step	Station	Action	Expected Results	Comments
		DAAC.		
5.	TSDIS	Send a Data Request message to the GSFC DAAC to order a standing or special order request..	GSFC receives the DR from TSDIS.	
6.	GSFC DAAC	Verify successful receipt of the DR.	Ingest and process the standing or special order request received from TSDIS	Need to know the name of the files, sizes, etc. in order to verify that all files were received correctly.
7.	GSFC DAAC	Verify successful transfer of a DRA to TSDIS.	TSDIS receives the DRA for the GSFC DAAC .	
8.	TSDIS	Verify successful receipt of the DRA.		The DRA notifies TSDIS that the DR has been received, properly parsed, and queued by the GSFC DAAC data server.
9.	GSFC DAAC	Retrieve the requested data (file_name) from archive. (**TBD**_Directory)		
10.	TSDIS	Send a Product Order Cancellation Request Message to GSFC DAAC. (DR is currently active).	A POCR is transmitted from TSDIS to GSFC DAAC.	
11.	GSFC	Verify successful receipt of the POCR and transfer to TSDIS a Product Order Cancellation message.	A POC is transmitted from GSFC DAAC to TSDIS.	
12.	TSDIS	Verify successful receipt of the POC form GSFC DAAC.	Processing of DR should be discontinued.	
13.	TSDIS	Send a Data Request message to the GSFC DAAC to order a standing or special	GSFC receives the DR from TSDIS.	

Step	Station	Action	Expected Results	Comments
		order request..		
14.	GSFC DAAC	Verify successful receipt of the DR.	Ingest and process the standing or special order request received from TSDIS	Need to know the name of the files, sizes, etc. in order to verify that all files were received correctly.
15.	GSFC DAAC	Verify successful transfer of a DRA to TSDIS.	TSDIS receives the DRA for the GSFC DAAC .	
16.	TSDIS	Verify successful receipt of the DRA.		The DRA notifies TSDIS that the DR has been received, properly parsed, and queued by the GSFC DAAC data server.
17.	GSFC DAAC	Retrieve the requested data (file_name) from archive. (**TBD**_Directory)		
18.	GSFC	Prepare an E-mail to the TSU that the data requested is now available on the GSFC file server. Send the E-mail to the TSU requesting receipt of E-mail.	E-mail is transmitted to a TSU with receipt requested to verify that the TSU has received notification of Data Availability.	The notification should indicate the location of the data and the expiration time.
19.	TSU	TSU establishes a ftp port, sends a (m)get message to the GSFC DAAC file server and prepares to receive the data file.	TSU transfers all the files listed in the E-mail notification using ftp or kftp.	
20.	GSFC	Verify the ftp daemon connection and download the data files from the file server to the TSU.		
21.	GSFC	Delete the data files from the file server after the files have been retrieved		

Step	Station	Action	Expected Results	Comments
		successfully by the TSU.		
22.	TSDIS	Send a Product Order Status Request message to the GSFC DAAC.	A POSR is sent from TSDIS to the GSFC DAAC.	
23.	GSFC DAAC	Verify successful receipt of the POSR and send a Product Order Status to TSDIS.	A POS is sent from GSFC DAAC to the TSDIS.	
24.	TSDIS	Initiate a Close Session message to terminate the connection after receiving the POS.	Connection is terminated.	

Test Terminate:

Step	Station	Action	Expected Results	Comments
1.	GSFC DAAC	Print the Event Log for the test period. Print the script file test history.		
2.	TSDIS	Print the TSDIS event log for the test period.		
3.	GSFC DAAC and TSDIS	Return both systems to the state "Operational Mode" it was in prior to the test.		

EGS4.4 GSFC DAAC Metadata Extraction Test

This test demonstrates the ability to extract Metadata from data received for ingest and verifies the capability to perform an automatic check of data, when Metadata is or is not provided with data for ingest, to determine if proper and complete information is provided so Metadata can be generated. Valid and invalid request will be submitted during this test.

Requirements To Be Verified:

DADS0290#A, DADS0300#A, DADS1510#A, IMS-0340#A.

Test Procedures:

Test Set up:

Step	Station	Action	Expected Results	Comments
1.	GSFC DAAC	Login as DAAC operator Open a UNIX script file to maintain test history.	Login allowed	
2.	TSDIS and GSFC DAAC	Validate IP Address and Password information.	Both system should contain the valid information.	
3.	TSDIS and GSFC DAAC	Verify network connectivity between the two systems.	Each system is able to 'Ping' the other system.	
4.	TSDIS	Verify contents of test data and check in with test conductor and report when ready to proceed.		

Test Execution:

Step	Station	Action	Expected Results	Comments
1.	GSFC DAAC	Login as DAAC operator.	Login allowed.	
2.	TSDIS	Initiate the Start Session.	A Start Session Message is transmitted from the TSDIS to the GSFC DAAC. The Start Session message is received and verified by GSFC DAAC.	
3.	GSFC DAAC	GSFC DAAC receives the Start Session message, verifies security, and initiate a Start Session Acknowledgment.	TSDIS receives a Start Session Acknowledgment message from the GSFC DAAC.	
4.	TSDIS	Send an 'Authentication	GSFC DAAC confirms receipt of	

Step	Station	Action	Expected Results	Comments
		Request' to the GSFC DAAC.	'Authentication Request', and verify 'Authentication Response' message is sent to the TSDIS.	
5.	TSDIS	Verify receipt of 'Authentication Response' message from the GSFC DAAC.	Socket connection between the TSDIS and the GSFC DAAC established.	
6.	GSFC DAAC	Access the Main Ingest GUI screen and select the "Monitor" option on the screen.	The Ingest Monitor Tool is invoked and the screen identifies ongoing ingest requests and displays them on the screen.	
7.	TSDIS	Send a DAN to the GSFC DAAC.	GSFC DAAC receives a DAN.	
8.	GSFC DAAC	View the Ingest Status Monitor display and verify that the Metadata has been successfully extracted.	The system automatically extracts Metadata from the transferred TRMM data, checks the Metadata, (e.g. range checks). Selected parameters from the extracted Metadata are checked and verified. The data and Metadata are inserted into the appropriate Data Server. Request state (active, file transferred, data insertion complete, etc.) is updated in the checkpoint request information.	
9.	GSFC DAAC	View the MSS Event Log for successful validation of Metadata information.	The Metadata items generated should include: a unique granule id, data and	

Step	Station	Action	Expected Results	Comments
			time of storage, data volume, physical location of data, data check status and unique format identifiers.	
10.	TSDIS	Send a DAN containing Missing required Metadata Information into the GSFC DAAC Archive directory.	Missing required Metadata Information could include: Project, Data_Type, Start_Date, Stop_Date, and Date_Version. DANs should be sent missing each of the listed parameters.	
11.	GSFC DAAC	Verify receipt of the DAN and the transfer of the DAA to TSDIS.	Monitor the ingest and archive process.	
12.	TSDIS	Verify receipt of the DAA.	The DAA should indicate that the DAN was rejected due to Missing Required Metadata Parameters.	
13.	GSFC DAAC	Verify data has been ingested and Metadata not extracted due to missing required parameters.	View the Event Log for unsuccessful validation of Metadata information due to missing required Metadata parameters.	
14.	GSFC	Send a status message to TSDIS requesting replacement data.	TSDIS receives status message.	
15.	TSDIS	Verify that data has been retransmitted the data.	A message or log file should indicate data has been retransmitted.	
16.	GSFC DAAC	Verify successful receipt of the data and Metadata extracted.	View the Event Log for successful validation of Metadata information.	

Test Terminate:

Step	Station	Action	Expected Results	Comments
1.	GSFC DAAC	Print the Event Log for the test period. Print the script file test history.		
2.	TSDIS	Print the TSDIS event log for the test period.		
3.	GSFC DAAC and TSDIS	Return both systems to the state "Operational Mode" it was in prior to the test.		

EGS4.5 GSFC DAAC Ingest Updated Metadata Test

This test verifies the ability to update Quality Indicator Metadata parameter values that were not known at the time of initial product archive at the GSFC. TSDIS, sends an updated Metadata for products already at the DAACs archive by sending a Metadata Update Request (MUR) message to the GSFC DAAC. The GSFC DAAC then sends a Metadate Update Acknowledgment (MUA) message to TSDIS, that states the Metadata have been successfully received/updated or it states the disposition of the MUR message.

Requirements to be Verified:

TRMM3050#A, TRMM5010, TRMM4103, TRMM4104

Test Procedures:

Test Set up:

Step	Station	Action	Expected Results	Comments
1.	GSFC DAAC	Logon to the Ingest Workstation as DAAC operator. Open a UNIX script file to maintain test history.		
2.	TSDIS and GSFC DAAC	Validate IP Address and Password information.	Both system should contain the valid information.	
3.	TSDIS and GSFC DAAC	Verify network connectivity between TSDIS and GSFC DAAC.	Each system is able to 'Ping' the other system.	

Test Execution:

Step	Station	Action	Expected Results	Comments
1.	TSDIS	Initiate the Start Session.	A Start Session Message is transmitted from the TSDIS to the GSFC DAAC. The Start Session message is received and verified by GSFC DAAC.	
2.	GSFC DAAC	GSFC DAAC receives the Start Session message, verifies security, and initiate a Start Session Acknowledgment.	TSDIS receives a Start Session Acknowledgment message from the GSFC DAAC.	
3.	TSDIS	Send an 'Authentication Request' to the GSFC DAAC.	GSFC DAAC confirms receipt of 'Authentication Request', and verify 'Authentication Response' message is sent to the TSDIS.	
4.	TSDIS	Verify receipt of 'Authentication Response' message from the GSFC DAAC.	Socket connection between the TSDIS and the GSFC DAAC established.	
5.	TSDIS	Generate and transfer a MUR to the GSFC DAAC .	Should consist of updated Quality Indicator Metadata.	
6.	GSFC DAAC	View the Event Log for successful validation of updated Quality Indicator Metadata information.	The Metadata parameters values should be updated.	
7.	GSFC DAAC	Verify that the Quality Indicator Update was received, in the proper format.		
8.	GSFC DAAC	Verify that the Granule_Metadata table was updated correctly in the	Disposition equals 0.	

Step	Station	Action	Expected Results	Comments
		Quality_Indicator field.		
9.	GSFC DAAC	Generate and transfer an MUA to TSDIS.	An MUA is received at TSDIS	
10.	TSDIS	Verify that an MUA from GSFC DAAC was received.		

Test Terminate:

Step	Station	Action	Expected Results	Comments
1.	GSFC DAAC	Print the contents of the Granule_Metadata table.		
2.	TSDIS	Print the TSDIS event log for the test period.		
3.	GSFC DAAC and TSDIS	Return both systems to the state "Operational Mode" it was in prior to the test.		